

## Ergonomics demonstration project: Utilities

### Need

Individuals interested in worker safety in utility companies are aware of the high number of Work-Related Musculoskeletal Disorder (WMSD) injuries to utility workers. About two years ago four people from several electric utility companies began meeting to discuss common ergonomic issues and ideas to address common problems. Word spread and interest in the group rapidly grew, expanding membership to fifteen western utility companies from five states and British Columbia. The group began calling itself the Western Utilities Ergonomics Group (WUEG).

Since Washington State adopted the ergonomics rule, WUEG realized the need to do job analyses to identify caution zone jobs and hazard zone jobs. Despite membership outside Washington, the group agreed to work together to address the Washington rule, and inquired about becoming a demonstration project.

The group was concerned most about how to assess jobs with high task variability. The project uses a two-prong approach. One part is to encourage appropriate use of the caution zone job/hazard zone job checklist methods for many jobs. The second part is to develop an assessment method to use for more difficult jobs.

### Goals

The goals of the demonstration project are to:

- Recognize when to use caution zone job/hazard zone job checklist methods.
- Develop and use the “job component” method for analyzing several challenging utility jobs. Train WUEG members in this method.
- Complete job analysis of 15-20 utility jobs. Identify possible solutions to reduce the exposures below hazard levels.

### Project design

The L&I ergonomist initially emphasized developing an evaluation method that can be used for jobs that are difficult to characterize. The method introduced job components as categories of work activities that are often based on a worker’s relative location. In this industry, it is easier for workers to account for their workday hours by the larger components than by individual tasks or work activities.

In June, videotaping and field-testing the “job components” method was started for lineworkers. Definitions and taxonomy of job organization was developed. This group learned to use a work sampling technique for the “job component” method.

September’s quarterly meeting presented the consensus definitions and a job organization taxonomy that WUEG will use. Several volunteers will collect data for a different lineworker “job component”. The group decided to assign and analyze a number of common utility jobs using the caution zone job/hazard zone checklist methods.

The group will review those jobs that have been analyzed (those completed using the checklist methods and the “job component” methods) by April 2002. The group will explore controls to reduce the hazardous exposure levels. If technological or economic feasibility issues arise, discussions with L&I personnel will need to occur to determine safe harbor qualification.

## Timetable

April 2001 .....WUEG agrees to be a demonstration project.  
 May-Aug. 2001 .....Method development.  
 June 2001 .....Videotaping and method testing.  
 September 2001 .....Parcel out more assignments for another Job Component. Assign common jobs for checklist assessment for next meeting.  
 November 2001 .....Review results of caution zone job/hazard zone assessments. For hazard zone jobs, begin discussion of controls. Provide pooled exposure data for completed job components. Decide which jobs are appropriate for "Job Component" analysis. Give assignments to collect data. Assign other jobs for checklist assessment.  
 April 2002 .....Provide exposure information for completed job components. Review all completed job analyses. Feasibility discussions.  
 June 2002 .....Complete project.

## Results

- Identify utility industry caution zone jobs and hazard zone jobs by checklist.
- Develop an acceptable method to measure ergonomic risk exposure that can be used for more difficult jobs within the utility trades.
- Determine and identify appropriate controls to reduce hazardous exposures.
- Determine and identify appropriate safe harbors for hazardous jobs in the industry.
- Share results and method on the L&I ergonomics website. Any utility with similar jobs can adapt the demonstration project exposure results in their companies.
- After the demonstration project is complete, WUEG will continue to function as a working group. They plan to develop a database with their ongoing job analysis results.